REMARKS/ARGUMENTS

There are no amendments to the specification or drawings herein.

In the Claims, Claims 2-26 and 28-32 are pending. Claims 28-32 were allowed. Claims 2-26 were rejected. New Claims 33 and 34 have been added. Reconsideration is respectfully requested.

Claims 2-26 were rejected under 35 U.S.C. 101, for reciting methods that, "do not produce a real life, real world, useful, concrete, and tangible result". The Examiner referenced interim guidelines: *Guidelines for Subject Matter Eligibility - OG Date: 22 November 2005* (now incorporated in MPEP §2106, *Patent Subject Matter Eligibility [R-5]*). Specifically, regarding Claim 4, the Examiner contended, "the result in the last limitation of the claim 'compensating magnitude and phase data ...' does not provide a concrete and tangible result". Further, the Examiner contended, "[t]his limitation is a process that consists solely of the manipulation of data and does not produce a concrete and tangible result". Regarding Claim 16, the Examiner contended, "the final limitation in claim 16 'compensating for an effect that compression ... has on measured magnitude data and measured phase data' ... is s [*sic*] process that consists solely of the manipulation of data and does not produce a concrete and tangible result". Regarding both of Claims 4 and 16, the Examiner suggested, "a concrete and tangible result would be storing of the magnitude and phase data for later retrieval, or displaying the magnitude and phase data".

Applicant respectfully traverses the rejection on the grounds that the Examiner has not presented and supported a *prima facie* case of unpatentability under 35 U.S.C. 101. Further, there is no evidence that the Examiner followed the aforementioned Guidelines.

In particular, there is no explanation regarding why the subject matter of either Claims 4 or 16, when considering the record as a whole, falls outside of all enumerated statutory classes. To the contrary, both of Claims 4 and 16 clearly recite a method. A method (or process) is recognized as one of the four enumerated statutory classes under 35 U.S.C. 101. Furthermore, the Examiner has not established that the scope of either of Claims 4 of 16 covers a 35 U.S.C. 101 judicial exception to the enumerated statutory classes (i.e., an abstract idea, natural phenomenon, or law of nature). In particular, the Examiner has not identified which judicial exception is

allegedly recited in the claims and further has not justified why the allegedly recited judicial exception renders the claims unpatentable.

Instead, the Examiner merely stated, without support, that "compensating ..." of Claims 4 and 16, "does not produce a concrete and tangible result". This is merely a conclusory statement without evidentiary support. There is no statement, explanation or other evidence in the record to establish and support the *prima facie* case of unpatentability. See MPEP §2106, *Patent Subject Matter Eligibility [R-5]*, at (VI)(C). In fact, ample evidence exists to support that Applicant's claims cover eligible subject matter under 35 U.S.C. 101, contrary to the Examiner's contentions.

For example, the Examiner failed to acknowledge or apparently recognize that the claimed invention as a whole encompasses a practical application. In particular, both Claims 4 and 16 recite a method of extending dynamic range of a test system. Dynamic range is a tangible characteristic of a test system and a test system is tangible machine or apparatus. Moreover, improved dynamic range is a highly desirable characteristic in a test system. Claims 4 and 16 recite a method that increases or extends dynamic range of a test system by compensating measured data produced by the test system. The recitation, "compensating for an effect ...", found in Claims 4 and 16, explicitly transforms the claimed test system by extending the dynamic range thereof. Moreover, the claimed "compensating for an effect ..." employs results of characterizing physical devices (receiver channels of the test system) and both of Claims 4 and 16 recite compensating ***measured*** data wherein the measured data is produced by the test system. Thus, the claims in question clearly transform an article or physical object, namely a test system, to a different state, namely the test system with extended dynamic range.

It is well established that claims directed to judicially excluded subject matter are eligible for patent protection when the claim is for or encompasses a practical application of an abstract idea, law of nature, or natural phenomenon.

> A claimed invention is directed to a practical application of a 35 U.S.C. 101 judicial exception when it: (A)"transforms" an article or physical object to a different state or thing; or (B) otherwise produces a useful, concrete and tangible result, based on the factors discussed below. (emphasis added). *Id.*, at (VI)(C)(2).

An, "application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection". *Diamond v. Diehr*, 450 U.S. 175, at 187, 209 USPQ 1 at 8 (1981). As such, Applicant's invention recited in Claims 4 and 16 clearly meets the requirements of a practical application and should be eligible for patent protection under 35 U.S.C. 101.

Furthermore, the invention as claimed applies to test equipment and specifically to extending the dynamic range thereof. The test system dynamic range is extended by compensating for an effect of receiver channel compression on measured data produced by the test equipment. The Federal Circuit has held that the requirements of 35 U.S.C. 101 where met by claims drawn to a long-distance telephone billing process containing mathematical algorithms because, "the process used the algorithm to produce a useful, concrete, tangible result without preempting other uses of the mathematical principle", *Interim Guidelines* at *ANNEX II* (B)(ii)(AT&T, 172 F.3d at 1358, 50 USPQ2d at 1452). Applicant does not seek to, and the claims themselves do not, in fact, preempt the use of "compensating" for purposes other than extending dynamic range of test equipment. Applicant is clearly not seeking patent protection for an abstract idea but instead, is seeking protection of an application of "compensating" that specifically and exclusively extends the dynamic range of a test system.

Moreover, it is only when a practical application is not present that the issue of "useful, concrete and tangible results" arises. "If USPTO personnel determine that the claim ***does not*** entail the transformation of an article, then USPTO personnel shall review the claim to determine it produces a useful, tangible, and concrete result" (***emphasis*** added). MPEP §2106 at (VI)(C)(2). Since Applicant's Claims 4 and 16 clearly cover a practical application, any consideration of whether or not useful, concrete and tangible results are claimed is respectfully moot. As such, the Examiner's contention that the subject claims lack a "concrete or tangible result" is further and entirely without merit.

Nevertheless, regarding both of Claims 4 and 16, the concrete result and the tangible result of the respective recited methods is to provide a test system having extended dynamic range and further to produce measured data that is compensated for the compression of receiver channels of the test system that normally limits the

dynamic range. By definition, the claimed result is "concrete" in that the claimed result is reproducible. See MPEP §2106 at (VI)(C)(2)(c). The methods of Claims 4 and 16 reproducibly extend dynamic range of the test system by compensating for compression effects. The claimed result is "tangible" in that the test system with extended dynamic range represents a practical application of "compensating". As such, the subject claims clearly set forth not only a practical application of the alleged judicial exception but further produce concrete and tangible results, contrary to the Examiner's contentions.

Moreover, the extended dynamic range test system of Claims 4 and 16 is also "useful". In particular, test systems (products) incorporating the invention are currently in production and these test systems have a recognized competitive edge when compared to other test systems, given the extended dynamic range afforded by the invention.

Hence, a *prima facie* case of unpatentability under 35 U.S.C. 101 has not been established. As stated in the MPEP §2106 at (VI)(D), "[i]f the record as a whole suggests that it is more likely than not that the claimed invention would be considered a practical application of an abstract idea, natural phenomenon, or law of nature, then USPTO personnel ***should not*** reject the claim" (***emphasis*** added). "The examiner bears the initial burden ... of presenting a prima facie case of unpatentability." *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

As discussed, a *prima facie* case for a rejection of Claims 4 and 16 under 35 U.S.C. 101 has not been properly presented or supported and therefore, the initial burden has not been met by the Examiner. Claims 2-3 and 5-15 are dependent from base Claim 4 while Claims 17-26 are dependent from base Claim 16. Thus, there is no *prima facie* case for the rejection of Claims 2-3, 5-15 and 17-26 for at least the same reasons as for base Claims 4 and 16. Reconsideration and withdrawal of the unsupported rejection of Claims 2-26 under 35 U.S.C 101 are respectfully requested.

The above notwithstanding and in the interest of furthering prosecution, Applicant has added new Claims 33 and 34 herein in an attempt to overcome the Examiner's ambiguous and ill-considered rejection under 35 U.S.C. 101. In particular, new Claim 33 is dependent from base Claim 4 and recites providing compensated data as an output product of the extended dynamic range test system.

Claim 34 is dependent from base Claim 16 and recites storing results of characterizing first and second receiver channels of test system and then employing the stored results for compensating measured data. The Examiner indicated in the present Office Action that "storing" data (e.g., results) or displaying (e.g., providing data as an output) are an examples of "concrete or tangible" results. Support for new Claims 33 and 34 is provided by at least Claims 4 and 16 as well as Applicant's Specification, as originally filed. No new matter is added. Entry and consideration of new Claims 33 and 34 are respectfully requested.

Applicant appreciates the Examiner's allowance of Claims 28-32.

In summary, Claims 2-26 and 28-32 are pending. Claims 28-32 were allowed. Claims 2-26 were rejected. New Claims 33 and 34 are added. It is respectfully requested that Claims 2-26 and new Claims 33 and 34, be allowed along with allowed Claims 28-32, and that the application be passed to issue at an early date.

Should the Examiner's action be other than allowance of all of the pending claims, the undersigned respectfully requests a telephone call from the Examiner to discuss further consideration that would expedite the prosecution of the application. Moreover, should the Examiner have any questions regarding the above, the Examiner is urged to contact the undersigned by telephone at the number given below, or June L. Bouscaren, Attorney for Applicant, Registration No. 37,928 at Agilent Technologies, Inc., telephone number (970) 679-3238.

Respectfully submitted,

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CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence is being transmitted to the United States Patent and Trademark Office via EFS-Web on the date shown below.

/J. Michael Johnson/ December 15, 2006
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